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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jung-Lin Pan

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EXAMINER

TRAN, THIEN D

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/901,289	Applicant(s) PAN ET AL.	
	Examiner Thien D Tran	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-23 is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. <u>02/03/05</u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/10/02, 7/16/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-23, drawn to assigning resource units in communication, classified in class 370, subclass 441.
 - II. Claims 24-40, drawn to correlating a received signal with the desired code, classified in class 370, subclass 320.
 - III. Claims 41-46 drawn to determining the maximum number of codes to assign to a time slot, classified in class 370, subclass 442.
2. Inventions Group I, II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention drawn to group I, II and III have separate features such as assigning resource units in communication, correlating a received signal with the desired code, and determining the maximum number of codes to assign to a time slot. See MPEP § 806.05(d).
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. Applicant has elected group I with traverse for examination via telephone call on 02-03-2005.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-23 are rejected under 35 U.S.C. 102(e) as being participated by Okubo et al (U.S Patent No. 6,580,703 B1).

Regarding claim 1, Okubo discloses a method of assigning mobiles station (resource units), figure 20, within a cell of a wireless CDMA (*CDMA is a combination of codes and time division in slots*, time division duplex communication system), each resource unit is associated with a channel (time slot) and a code, figure 1 and 18, col.11 lines 25-40, the method comprising:

for selected ones of the cell's resource units, measuring a code interference level during that unit's time slot using that unit's code and determining whether that unit has

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an acceptable code interference level based on a comparison of that unit's measured code interference level with a threshold, col.2 lines 50-60; and

assigning mobile stations (resource units) to communications out of the selected ones resource units having an acceptable code interference level, col.4 lines 20-25 and figure 20.

Regarding claim 2, Okubo discloses the method further comprising:

measuring a time slot interference level in selected channels (time slots), col.11 lines 50-60;

comparing the measured time slot interference level for each selected channels (time slot) to a threshold, col.11 lines 25-60; and

eliminating from channel list ones of the selected channels (time slots) based on a result of the comparing, figure 18;

wherein the selected ones resource units do not include resource units of the eliminated ones channels (time slots), col.11 lines 20-45.

Regarding claim 3, Okubo discloses that the measuring a time slot interference level is performed using interference signal code power, col.2 lines 50-60.

Regarding claim 5, Okubo discloses that the measuring a time slot interference level is performed using a measure of interference (inter-cell interference), col.3 lines 35-45.

Regarding claim 6, Okubo discloses that the measured channel (time slot) interference level comparing determines whether the measured time slot interference

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level exceeds the threshold and the eliminated ones of the selected channel (time slots) exceed the threshold, figure 19.

Regarding claim 7, Okubo discloses that comprising combining a list of selected codes and selected channels (preference matrix) indicating which of the selected ones resource units are eliminated, figure 1 and figure 18.

Regarding claim 8, Okubo discloses that the lists for codes and channels indicate bad channels of higher than threshold of interference (eliminated time slots), col.9 lines 20-35.

Regarding claim 9, Okubo discloses that the assigning resource units is performed by reading the lists and assigning a first available resource unit read in the list, col.11 lines 45-55.

Regarding claim 10, Okubo discloses that the assigning resource units is performed by in descending order of priority (first assigning a resource unit in the lists with a lowest interference level), col.9 lines 35-40.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okubo et al (U.S Patent No. 6,580,703 B1) in the view of Gu et al (U.S Patent No. 6,421,380 B1).

Regarding claim 4, Okubo discloses that the power level of a channel (time slot) is measured for interference, col.11 lines 30-40. Okubo does not disclose that the measurement uses power of midamble. However, Gu discloses the measurement of interference using the midamble portion of a channel (time slot), figure 2 and col.7 lines 35-45. Therefore, it would have been obvious to one having ordinary skill in the art to have the feature of measuring interference of a channel using midamble of that channel to have an accurate measurement because midamble portion is a designate portion of the channel (time slot) used for power measurement.

Allowable Subject Matter

10. Claims 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Regarding claim 13, the prior arts fail to teach or fairly suggest a wireless time division duplex communication system using code division multiple access comprising a user equipment, wherein the user equipment comprises a resource unit assignment device for outputting code power interference measurements for use by a base station and assigning resource units to communications using the resource units assigned by the base station, in combination with other limitations, as specified in claim 13.

Conclusion

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12. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Thien Tran whose telephone number is (571) 272-3156. The examiner can normally be reached on Monday-Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.

Patent Examiner

Thien Tran

DUCHO
PRIMARY EXAMINER

Ducho

2-17-05